cannot afford to await culture results, and countercurrent immunoelectrophoresis, although completed in a few minutes, is not widely available. A 15 to 30 percent mortality rate in the civilian population is too high and most likely results from the delay in therapy.

By keeping meningococcal disease in mind when confronted with a febrile patient in a toxic condition, particularly when a skin rash is noted, and instituting early therapy, you can increase the patient's chances for survival.

REFERENCES

- 1. Gold R, Winklehake JL, Mars RS, et al: Identification of an epidemic strain of group C Neisseria meningitidis by bactericidal serotyping. J Infect Dis 124:593-597, Dec 1971
- 2. Counts GW, Steeley L, Beaty H: Identification of an epi-emic strain of Neisseria meningitidis by bacteriocin typing. Infect Dis 124:26-32, Jul 1971
- 3. Greenfield S. Sheehe PR, Feldman HA: Meningococcal carriage in a population of "normal" families. J Infect Dis 123:67-73, 1971
- 4. Goldschneider I, Gotschlich EC, Artenstein MS: Human immunity to the meningococcus—I. The role of humoral antibodies. J Exp Med 129:1307-1326, 1969
- 5. Frasch CE, Chapman SS: Classification of Neisseria meningitidis group B into distinct serotype—III. Application of a new bactericidal inhibition technique to distribution of serotypes among cases and carriers. J Infect Dis 127:149-154, 1973 serotypes among
- 6. Young LS, LaForce FM, Head JJ, et al: A simultaneous outbreak of meningococcal and influenza infections. N Engl J Med 287:5-8, Jul 6, 1972
 7. Artenstein MS, Rust JH, Hunter DH, et al: Acute respiratory disease and meningococcal infection in army recruits. JAMA 201:1004-1008, Sep 25, 1967
- 8. Koppes GM, Ellenbogen C, Gebhart, RJ: Group Y menin-coccal disease in United States Air Force recruits. Am J Med

- 9. Toews WH, Bass JW: Skin manifestations of meningococcal infection. Am J Dis Child 127:173-176, 1974
- 10. Davis CE, Arnold K: Role of meningococcal endotoxin in meningococcal purpura. J Exp Med 140:159-171, 1974
- 11. Fass RJ, Saslaw S: Chronic meningococcemia. Arch Int Med 130:943:946, 1972
- 12. McLean S, Caffey J: Endemic purpuric meningococcus bacteremia in early life. Am J Dis Child 42:1053-1074, 1931
- 13. Tompkins VN: The diagnostic value of smears taken from purpuric lesions of the skin in meningococcal disease. JAMA 123:31-32, 1943
- 14. Whittle HC, Greenwood BM, Davidson NM, et al: Meningococcal antigen in diagnosis and treatment of group A meningococcal infections. Am J Med 58:823-828, Jun 1975
 15. Whittle HC, Abdullah MT, Fakunle FA, et al: Allergic complications of meningococcal disease. Br Med J 2:733-740, 1973
- Blackfan KD: The treatment of meningococcal meningitis.
 Medicine 1:139-212, 1922
- 17. Souther PM, Sanford JP: Meningococcal meningitis—Sub-optimal response to cephalothin therapy. N Engl J Med 280: 1163-1164, 1969
- 18. Hardman JM, Earle KM: Myocarditis in 200 fatal meningococcal infections. Arch Path 87:318-325, 1969
- 19. Beal LR, Ustach TJ, Forker AD: Meningococcemia without meningitis presenting as cardiac tamponade. Am J Med 51:659-662,
- 20. The Meningococcal Disease Surveillance Group: Meningococcal disease: Secondary attack rate and chemoprophylaxis in the United States, 1974. JAMA 235:261-265, 1976
 21. Kuhns DM, Nelson CT, Feldman HA: The prophylactic value of sulfadiazine. JAMA 123:335-339, 1943
- 22. Guttler RB, Counts GW, Avent CK, et al: Effect of rifampin and minocycline on meningococcal carrier rates. J Infect Dis 124:199-205, 1971
- 23. Jacobson JA, Daniel B: Vestibular reactions associated with minocycline-antimicrobial agents and chemotherapy. 8:453-456, 1975
- 24. Gotschlich EC, Goldschneider I, Artenstein MS: Human immunity to the meningoccccus—IV. Immunogenicity of group A and group C meningococcal polysaccharides in human volunteers. J Exp Med 129:1367-1384, 1969
- 25. Artenstein MS, Gold R, Zimmerly JG: Prevention of meningococcal disease by group C polysaccharide vaccine. N Engl J Med 282:417-420, 1970

 26. Wyle FA, Artenstein MS, Brandt EC, et al: Immunologic response of man to group B meningococcal polysaccharide vaccines. J Infect Dis 126:514-522, 1972

Early Diagnostic Esophagoscopy in the Management of Corrosive Burns of the Esophagus

As EARLY AS WE CAN—it may be 10, 12, 14 or even 24 hours after injury—we do an esophagoscopic study in all cases of possible corrosive burns of the esophagus. It's diagnostic esophagoscopy, because all we want to find out is if the esophagus is burned or if it's not burned. If the esophagus is not burned, a patient will be in hospital for a very short time for the treatment of the burns of the lips and buccal mucosa. If the esophagus is burned, we will continue therapy with antibiotics and steroids. Barium swallows do not help us because there could be severe damage, and the scarring and stricture formation takes usually weeks to occur. So, the mistake has been made to get a barium swallow at say two weeks after injury. The results may look pretty good, yet these patients have difficulty eating. In some of them there may even be aspiration of food and we wonder why they keep having these problems. So, I think diagnostic esophagoscopy is vital to see which patient you have to treat.

> -GILBERT S. CAMPBELL, MD, Little Rock Extracted from Audio-Digest Surgery, Vol. 24, No. 15, in the Audio-Digest Foundation's subscription series of tape-recorded programs. For subscription information: 1577 East Chevy Chase Drive, Glendale, CA 91206.